

AMENDMENTS TO THE SPECIFICATION

Please substitute the following annotated paragraphs for paragraphs 8, 13, and 16:

[0008] The crosstalk noise environments that may occur for the above bit rate target objective are varied. For example, noise environments may include Near-end cross talk (NEXT), Far-end cross talk (FEXT), disturbance from Integrated Services Digital Networks (ISDN), High Speed Digital Subscriber Line[s] (HDSL), Symmetric High-Bitrate Digital Subscriber Line (SHDSL), T1, and Self-disturbances at both the Central Office (CO) and Customer Premise Equipment (CPE) ends. NEXT from HDSL and SHDSL tend to limit the performance in the upstream channel, while NEXT from repeated T1 Alternate Mark Inversion (AMI) systems tend to severely limit the downstream channel performance. An additional source of noise is loops containing bridged taps that degrade performance on an Asymmetric Digital Subscriber Line (ADSL) downstream channel more so than the upstream channel.

[0013] Another advantage of Smart DSL is that it is a good way to handle providing LDSL services in different countries. For example, so far, LDSL work has focused on [[SBC]] requirements set forth by SBC Communications (hereinafter "SBC"). As a result, it is risky of, for example, a US-based LDSL provider to rely on the ability to apply any masks that pass SBC tests to Europe, China or Korea. LDSL is a difficult project and essential for all the countries. Therefore, any scheme for LDSL standardization that takes into account merely SBC physical layer and cross talk

requirements may jeopardize the ADSL reach extension in non-standard LDSL countries. Other drawbacks of current systems also exist.

[0016] In some embodiments the method may further comprise determining features of upstream transmission and determining one or more of: cut-off frequencies, side lobe shapes, overlap, partial overlap or Frequency Division Duplexing (FDD) characteristics. Other advantages and embodiments of the invention are also disclosed in the following sections.